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| APPLICATION NO.                                                                                               | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------------------------------|-------------|------------------------|---------------------|------------------|
| 10/531,335                                                                                                    | 04/14/2005  | Akio Takeuchi          | 42844-0600          | 7918             |
| 21611 7590 03/17/2008<br>SNELL & WILMER LLP (OC)<br>600 ANTON BOULEVARD<br>SUITE 1400<br>COSTA MESA, CA 92626 |             |                        |                     |                  |
| EXAMINER<br>CUEVAS, PEDRO J                                                                                   |             |                        |                     |                  |
| ART UNIT<br>2834                                                                                              |             | PAPER NUMBER           |                     |                  |
| MAIL DATE<br>03/17/2008                                                                                       |             | DELIVERY MODE<br>PAPER |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/531,335

**Applicant(s)**

TAKEUCHI, AKIO

**Examiner**

PEDRO J. CUEVAS

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12, 14-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on November 21, 2007 have been fully considered but they are not persuasive.
2. In response to applicant's argument that "The principal reference relied upon, *Liou*, would not be taken seriously by a person of ordinary skill in this field. Basically, the teaching in this reference is a Perpetual Motion Machine. To be operative, it would have to produce more power than is introduced into the closed loop generating system.", it must be noted that there is no statement in *Liou* that the disclosed system will or can operate perpetually or continually by using the pump 4 to move the working fluid to the tank with the energy being generated. The generating system can be operated during high demand hours to provide electricity to the power grid, and the pump 4 could be used during low demand hours to store mechanical power in the tank by using the excess power being generated by the power grid.
3. In response to applicant's argument that "the *Shin* like the *Liou* reference, is again a closed system that must generate more power than introduced back into the system, in order to be operative. That is, a perpetual motion machine.", it must be noted that there is no statement in *Liou* that the disclosed system will or can operate perpetually or continually. *Shin* recites the use of buoyancy and gravity as the forces acting on the capsules as the source of mechanical energy to operate the system.
4. In response to applicant's argument that "the more that the cited references must be modified to meet the outstanding claims, the more likely that an non-intended issue of hindsight may have driven the rejection.", the test for obviousness is not whether the features of a

secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

3. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

4. In response to applicant's argument that "The purpose of the extension 28 is to enlarge the mouth of a side open area of the bucket for receiving the horizontal direction of water from the chutes 13 and 14", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,905,312 A to Liou in view of U.S. Patent No. 6,734,574 B2 to Shin.

Liou disclose the construction of a gravity generating system utilizing falling water flow, comprising:

a substantially vertically standing frame (10) having an introduction port (7013, 7014) at its top end for introducing falling water flow and a discharge port (7031) at its lower end for discharging the falling water flow so as to pass the falling water flow through the frame;

a conveyer (40) circulatably provided inside the frame in the vertical direction via a rotary shaft (Figure 2) in a loop-like tensed state;

a plurality of buckets (50) disposed in the longitudinal direction along an outer surface of a circulating portion of the conveyor and fixed thereto at predetermined intervals (Figure 1), into which the falling water flow is introduced and the openings of which face in the direction opposite to the circulating direction of the conveyor; and

a generator (60) connected to the rotary shaft which supports the conveyor and rotates with the circulation of the circulating portion of the conveyor, characterized in that the buckets, the openings of which face in the upward direction, lined up on the outer surface of one side of the circulating portion of the conveyor are arranged along a

passage through which the falling water flow introduced from the introduction port into the inside of the frame passes and the generator is positioned on an exterior of the frame. However, it fails to disclose a cylindrical frame.

Shin disclose the construction of a buoyancy-driven electric power generator, comprising a substantially vertically standing cylindrical frame (Figures 6A and 6B), for the purpose of passing a plurality of cylindrical capsules through any plurality of cylindrical coil modules.

It would have been obvious to one skilled in the art at the time the invention was made to use the cylindrical shaped of the capsules, coils and frame disclosed by Shin on the gravity generating system disclosed by Liou for the purpose of allowing cylindrically shaped buckets to pass through a cylindrically shaped frame.

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to use cylindrical buckets since the examiner takes Official Notice of the equivalence of a rectangular bucket and a cylindrical bucket for their use in the electro-mechanical power generating art, and the selection of any of these known equivalents to receive a fluid and extract electro-mechanical power, would be within the level of ordinary skill in the art.

8. With regards to claim 2, Liou disclose a funnel (20) for introducing the falling water flow into the inside of the frame through the introduction port is provided on the introduction port at the upper end of the cylindrical frame.

9. With regards to claims 3 and 6, Liou disclose a storage tank (70) for temporarily storing the falling water flow to be introduced into the inside of the cylindrical frame through the introduction port is provided.

10. With regards to claims 5 and 9-10, Liou disclose the conveyer being formed by a combination of a chain and sprockets (Figure 6).

11. Claims 4, 7-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,905,312 A to Liou in view of U.S. Patent No. 6,734,574 B2 to Shin as applied to claims 1-3, 5-6 and 9-10 above, and further in view of U.S. Patent No. 1,483,505 to J. R. Bradshaw.

Liou in view of Shin disclose the construction of a gravity generating system as disclosed above.

However, it fails to disclose guide plates for introducing the falling water flow into the buckets, said guide plates being provided on outer edges of the openings of the respective buckets lined up on the outer surface of the circulating portion of the conveyor in a longitudinal direction transverse to the falling water flow in such a manner that the guide plates stand up diagonally outward opposite to the side of the buckets connected to the conveyor, the guide plates are positioned to receive an impact of falling water flow and to direct the water to the buckets.

J. R. Bradshaw disclose the construction of a water power device, comprising a plurality of buckets or containers (26) adapted to be associated with the endless web, said buckets having guide plates (extended end walls 28) for introducing the falling water flow into the buckets, said guide plates being provided on outer edges of the openings of the respective buckets lined up on the outer surface of the circulating portion of the conveyor in a longitudinal direction transverse to the falling water flow in such a manner that the guide plates stand up diagonally outward opposite to the trunk side of the buckets (Figures 1 and 3) connected to the endless web, the

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guide plates being positioned to receive an impact of falling water flow and to direct the water to the buckets for the purpose of providing the receptacle with a bill or abutment.

It would have been obvious to one skilled in the art at the time the invention was made to use the buckets or containers disclosed by J. R. Bradshaw on the gravity generating system disclosed by Liou in view of Shin for the purpose of providing the receptacle with a bill or abutment.

12. With regards to claim 11, Liou disclose the conveyer being formed by a combination of a chain and sprockets (Figure 6).

13. Claims 12, 14-16 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,483,505 to J. R. Bradshaw in view of U.S. Patent No. 5,905,312 A to Liou, further in view of U.S. Patent No. 4,028,893 to Shaw.

J. R. Bradshaw disclose the construction of a water power device, comprising:

a frame unit (8 + 16);

a first shaft (18') rotably mounted on the frame unit;

a second shaft (22) rotably mounted on the frame unit;

an elongated endless conveyor member (16') operatively supported on the first and second shafts, the conveyor member having a plurality of spaced bucket members to hold water extending outward from an exterior surface of the conveyor member for receiving and temporarily retaining water; and

inclined guide plates (extended end walls 28) positioned to extend outwardly from the respective bucket members when the bucket members descend in the falling water



flow and to receive an impact force from the falling water and to direct the water to the bucket member.

However, it fails to disclose:

a cylindrical outer housing extending around the sides of the frame unit and open below the frame unit;

a generator operatively mounted to the shaft for generating electricity as the first shaft rotates; and

a funnel member capable of receiving and directing water, the funnel member directs the water above and to one side of the conveyor member that juxtapositions the bucket members to receive and temporarily retain water so that release of the water to fall by gravity from the funnel member will impact the respective spaced bucket projections to drive the conveyor member to rotate.

Liou disclose the construction of gravity generating system utilizing falling water flow, comprising:

a generator (60) operatively mounted to a shaft (Figure 2) for generating electricity as the shaft rotates; and

a funnel member (20) capable of receiving and directing water, the funnel member directs the water above and to one side of the conveyor member that juxtapositions the bucket members to receive and temporarily retain water so that release of the water to fall by gravity will impact the respective spaced bucket projections to drive the conveyor member to rotate;

for the purpose of converting kinetic energy into electrical energy and directing the working fluid into the buckets.

Shaw disclose the construction of a solar energy system, comprising a cylindrical outer housing (11) extending around the sides of a frame unit (22) and open below said frame unit for the purpose of containing the liquid medium.

It would have been obvious to one skilled in the art at the time the invention was made to use the cylindrical outer housing disclosed by Shaw and generator and funnel member disclosed Liou by on the water power device disclosed by J. R. Bradshaw for the purpose of containing the liquid medium, converting kinetic energy into electrical energy and directing the working fluid into the buckets.

14. With regards to claim 14, J. R. Bradshaw disclose the conveyor member including a chain that engages complementarily sprockets (17 and 18) on the respective first and second shafts.

15. With regards to claim 15, Liou disclose a storage tank (70) for holding water connected to the funnel member.

16. With regards to claim 16, Liou disclose a speed increaser unit (Figure 2), which is connected between the first shaft and the generator to increase the rotary speed applied to the generator.

17. With regards to claim 21, Liou disclose a storage tank (70) for holding water connected to the funnel member (20).

18. With regards to claim 22, J. R. Bradshaw disclose a vertically slidable gate (10) associated with discharge openings (9) and mounted in guides (11) which operate as a valve system to regulate the release of water flow.

19. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,483,505 to J. R. Bradshaw in view of U.S. Patent No. 5,905,312 A to Liou as applied to claims 12-16 above, and further in view of U.S. Patent No. 4,100,743 to Trumbull et al.

J. R. Bradshaw in view of Liou disclose the construction of a water power device as disclosed above, further including a vertically slidable gate (10) associated with discharge openings (9) and mounted in guides (11) which operate as a valve system to regulate the release of water flow.

However, it fails to disclose a storage battery connected to the generator.

Trumbull et al. disclose the construction of a gravity engine, comprising a storage battery (41) connected to a generator, for the purpose of storing electrical energy.

It would have been obvious to one skilled in the art at the time the invention was made to use the storage battery disclosed by Trumbull et al. on the water power device disclosed by J. R. Bradshaw in view of Liou for the purpose of storing electrical energy.

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEDRO J. CUEVAS whose telephone number is (571)272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pedro J. Cuevas/  
Examiner, Art Unit 2834  
March 16, 2008

/Darren Schuberg/  
Supervisory Patent Examiner, Art Unit 2834